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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,121	06/25/2004	Seiichiro Udagawa	4724-0019WOUS	7905
35301 7590 09/04/2007 MCCORMICK, PAULDING & HUBER LLP CITY PLACE II 185 ASYLUM STREET HARTFORD, CT 06103			EXAMINER WEINSTEIN, LEONARD J	
			ART UNIT 3746	PAPER NUMBER
			MAIL DATE 09/04/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/500,121	Applicant(s) UDAGAWA, SEIICHIRO	
	Examiner Leonard J. Weinstein	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05/25/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment of June 6, 2007. In making the below rejections and/or objections the examiner has considered and addressed each of the applicant's arguments.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yajima '986 6,539,986 in view of Do 4,935,151. Yajima '986 teaches all the limitations as claimed for a liquid supply apparatus including: a pump 1 discharging a liquid accommodated in a liquid tank 6, a filter 17 provided with a pump discharge-side valve 15 and connected to said pump 1 through a pump outlet flow path, as defined by line between elements 15 and 17, opened/closed by said pump discharge-side valve 15, a liquid discharge portion, as defined by elements 14, 16, and 18, provided with a discharge valve 16 and connected to said filter 17 through a liquid discharge flow path 14 opened/closed by said discharge valve 16, and a valve 9 and

Art Unit: 3746

communicating with said filter 17 through an exhaust flow path 10 opened/closed by said valve 9, as shown in the embodiment of figure 2; and an exhaust flow path 10 is connected to a vent port formed at said filter 17, or a primary or secondary side of said filter, as clearly seen in figure 2.

Yajima '986 fails to teach the following limitation as is taught by Do for a liquid supply apparatus including a vacuum source 9 provided with a deaeration valve 20 and communicating with a filter 13 through an exhaust flow path T opened/closed by a deaeration valve 20. I would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a liquid supply system with a vacuum pump on a branch of fluid discharge conduit in order expedient remove an amount of bubble and/or particles from a fluid in a supply system (Yajima '986 – col. 4 ll. 3-9 & 66-68; and col. 5 ll. 1-11).

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yajima '986 i.v. Do as applied to claim 1 above, and further in view of Yajima 6,238,576. A combination of Yajima '986 and Do teaches all the limitations as discussed but fails to teach the limitation that is taught by Yajima '576: a control means 56 for closing a pump discharge-side valve V5 and a discharge valve V3 and opening said deaeration valve V2 (as shown in figure 5 as part of an exhausting operation). Incorporating the control of Yajima '576 with the discharge-side valve 15 and discharge valve 16 of Yajima '986, and the vacuum pump 9 of Do would provide a autonomous system such as one disclosed by Yajima '576 which operates the pumping system of Yajima '986 via a control means. Yajima '986 is not relied upon to teach a function of two valves rather a means for controlling the valves as cited above of Yajima '576. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a control means for operating a series of valves and a pump to provide independent

Art Unit: 3746

control of the components of a liquid supply system and deliver a precise supply of liquid at a flowrate unaffected by pressure loss due liquid flow through the components of the system (Yajima '576 – col. 4 ll. 19-28).

6. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yajima '986 6,539,986 in view of Do 4,935,151. Yajima '986 teaches all the limitations of structure of liquid supply system including a pump 1 discharging a liquid accommodated in a liquid tank 6, a filter 17 connected to said pump 1 through a pump outlet flow path, defined by line between elements 15 and 17, provided with a pump discharge-side valve 15 and opened/closed by said pump discharge-side valve 15, and a liquid discharge portion, elements 14, 16, and 18, connected to said filter 17 through a liquid discharge flow path 14 provided with a discharge valve 16 and opened/closed by said discharge valve 16, and discharging the liquid in said liquid tank 6 from said liquid discharge portion elements 14, 16, and 18. Yajima '986 further teaches opening a valve 9 provided to an exhaust flow path 10 and closing a pump discharge-side valve 15 and a discharge valve 16 to regulate a pressure inside a filter 17 to the exhaust flow path 10 but fails a deaeration valve and a deaerating method reliant upon a vacuum source. Do teaches the method of deaerating a liquid supply system by relying on a vacuum source 9 and further including the steps of a vacuum source 9 connected to a filter 13 through and exhaust flow path, line connecting element 19 to 20 which is thereby connected to element 4 a tank in communication with the vacuum source 9, opening a deaeration valve 20 to exhaust a gas inside a filter 13 (Do – col. 4 ll. 66-67; col. 3 ll. 1-11). A combination of Yajima '986 and Do would modify the pressure regulation valve of Yajima '986 to be deaerating valve connected to a vacuum source as disclosed by Do and therefore teach a method of deaerating as claimed. It would have been obvious to one of ordinary skill in the art at the time the invention was

Art Unit: 3746

made modify a pressure regulation valve to be a dearation valve connected to a vacuum pump to provide an expedient method of removing gas a bubbles from a liquid being delivered (Do – col. 4 ll. 3-9).

Allowable Subject Matter

7. Claim 5 is allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard J. Weinstein whose telephone number is 571-272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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